NASA SBIR/STTR Technologies

Proposal Number: 10-1 A3.01-8386

THE DESIGN AND OPTIMIZATION OF AN INTEGRATED ARRIVAL/DEPARTURE SCHEDULER

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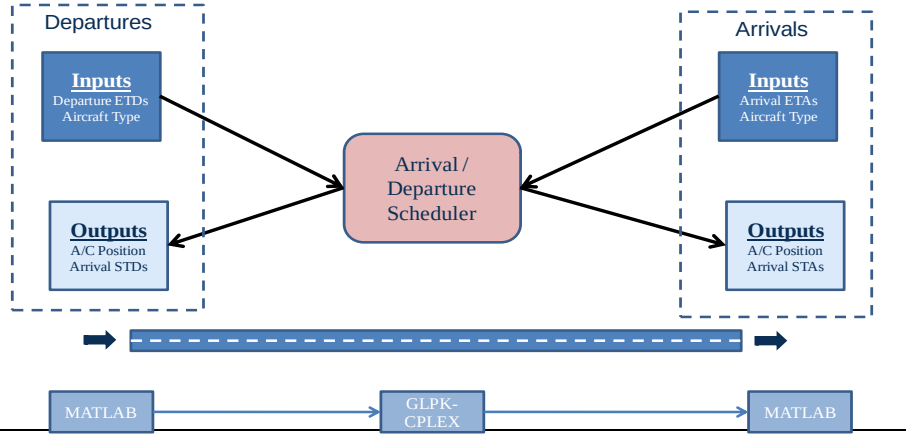
Identification and Significance of Innovation

The key innovation of this proposal is to develop an integrated arrival/departure scheduler that improves airport throughput by minimizing delays for both arrivals and departures. The concept performs better than separate arrival and departure schedulers as it has access to the entire design space at once, therefore the resulting schedules are global optimum.

Expected TRL Range at the end of Contract (1-9): 2



Technical Objectives and Work Plan

Prototype a fast time integrated arrival/departure scheduler

- **Develop scenarios and a simplified testbed for the scheduler algorithm.**
- **Develop the scheduler algorithm.**
- **Design a sophisticated testbed for Phase II experimentation.**
- **Run experiments with the scheduler to assess its feasibility**

NASA and Non-NASA Applications

NASA

- The scheduler would help in providing a deterministic approach to aircraft scheduling in transition airspace within existing NASA ATM tools such as TMA

Non-NASA:

- The scheduler can improve the efficiency of airports lacking potential to expand infrastructure
- Can be used by airline for in-house schedule optimization and scenario generation

Firm Contacts

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